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Wal-Mart and Economic Growth of Nebraska Counties

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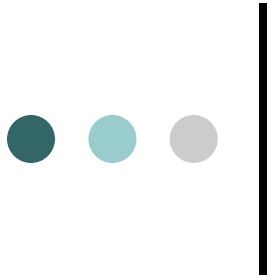
Steven Katchman (Professor, Statistics)

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What is the issue and why is it important?

- Wal-Mart has been criticized regarding its socio-economic impact on communities
- Complaints are emanating from:
 - Consumers, suppliers, competitors, community leaders and labor unions
- Anti-Wal-Mart websites
 - Wal-Martsucks.com
- Wal-Mart defense
 - Wal-Martfacts.com



- Complaints
 - Anti- union
 - Contributes to increase in unemployment
 - No health insurance for all employees
 - Payment of low wages
 - Force suppliers to follow its demands
 - Destroys mom and pop shops
 - Outsources production and forces its suppliers to outsource



WAL-MART
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Always

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ADVERTISING



Wal-Mart today

- Largest corporation in the world
- Operates 3600 stores in the US and 1150 stores in other countries
- Employs 1.2 million in US and 300 thousand workers in other countries
- Imports the bulk of its merchandise from China
 - Approximately 10% of total US imports from China in 2003



Wal-Mart history

- First store in Rogers, Arkansas in July 1962
- 1972- listed on the stock exchange
- Wal-Mart Satellite Network ,1987
 - The largest private satellite communication system in the U.S



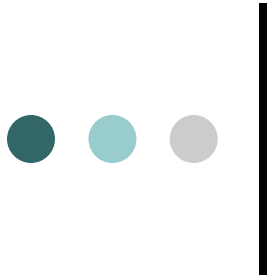
Wal-Mart history

- Became No. 1 retailer in U.S, 1990
- Went international in 1991-Mexico
- Between 1992 and 2002 opened stores in 9 countries including UK and Canada
- Became the number 1 employer in US, 1997
- Highest single day sales in history, US\$1.25 billion, Thanksgiving 2001



What non-academic reports say about Wal-Mart:

- More than 200 communities have rejected Wal-Mart ,Rosen(2003)
- Wal-Mart success comes at the expense of society,Miller(2004)
- Wal-Mart is partly to blame for the ailing US economy, Wilson (2004)
- Wal-Mart destroys communities, Freeman (2003)



- Wal-Mart benefits immigrants , old people with employment
- Benefits consumers with low prices
- Chews virgin land, destroys mom and pop shops
- Has set standards for other inefficient firms
 - Article: Learning to love Wal-Mart

The Economist April 17th-23rd 2004

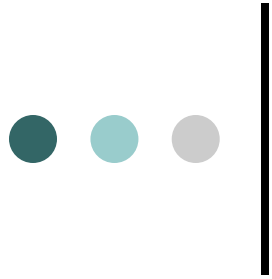


What academic studies say about Wal-Mart :

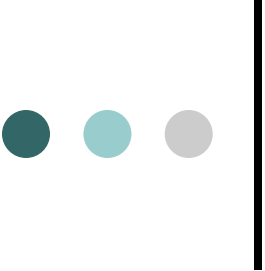
- Stone (1988, 1997), Artz and McConnon (2001) , and McGee and Gresham (1995)
 - Wal-Mart increases sales in host towns and decreases sales in surrounding communities.
- Stone, Artz and Myles (2002)
 - The impact of Wal-Mart on incumbents is a zero sum game



- Basker (2004)
 - Wal-Mart presence has a positive impact on job creation
- Hicks and Wilburn (2001)
 - Wal-Mart brings employment and wage net benefits to counties where it is located - West Virginia study



- Franklin (2000)
 - Wal-Mart's impact on supermarket concentration and grocery retailing performance to date has been minimal. – US-metro areas
- Ketchum and Hughes (1997)
 - Wal-Mart had no effect on either lack of growth in retail employment or relative wage growth – Maine study

- 
- Mattera and Purinton (2004),
 - Wal-Mart received \$1 billion benefit in form of subsidies from communities.
 - Doubt on whether Wal-Mart should get subsidies with all the controversy that surrounds it
 - Dube and Jacobs (2004)
 - Wal-Mart receives indirect subsidies
 - Its employees rely heavily on social welfare and taxpayer funded healthcare
 - This is hidden cost to society



- Goetz and Swaminthan (2004)
 - Communities which attracted more Wal-Mart stores between 1990 and 1999 registered the highest poverty levels.



Why another study?

- The effect of Wal-Mart on the standard of living measured by its effects on economic growth is unknown.
- No study has used a formal economic framework that would allow sorting out the effects of other economic variables on the impact of Wal-Mart on the economic growth of communities
- No consensus on the impact of Wal-Mart on communities



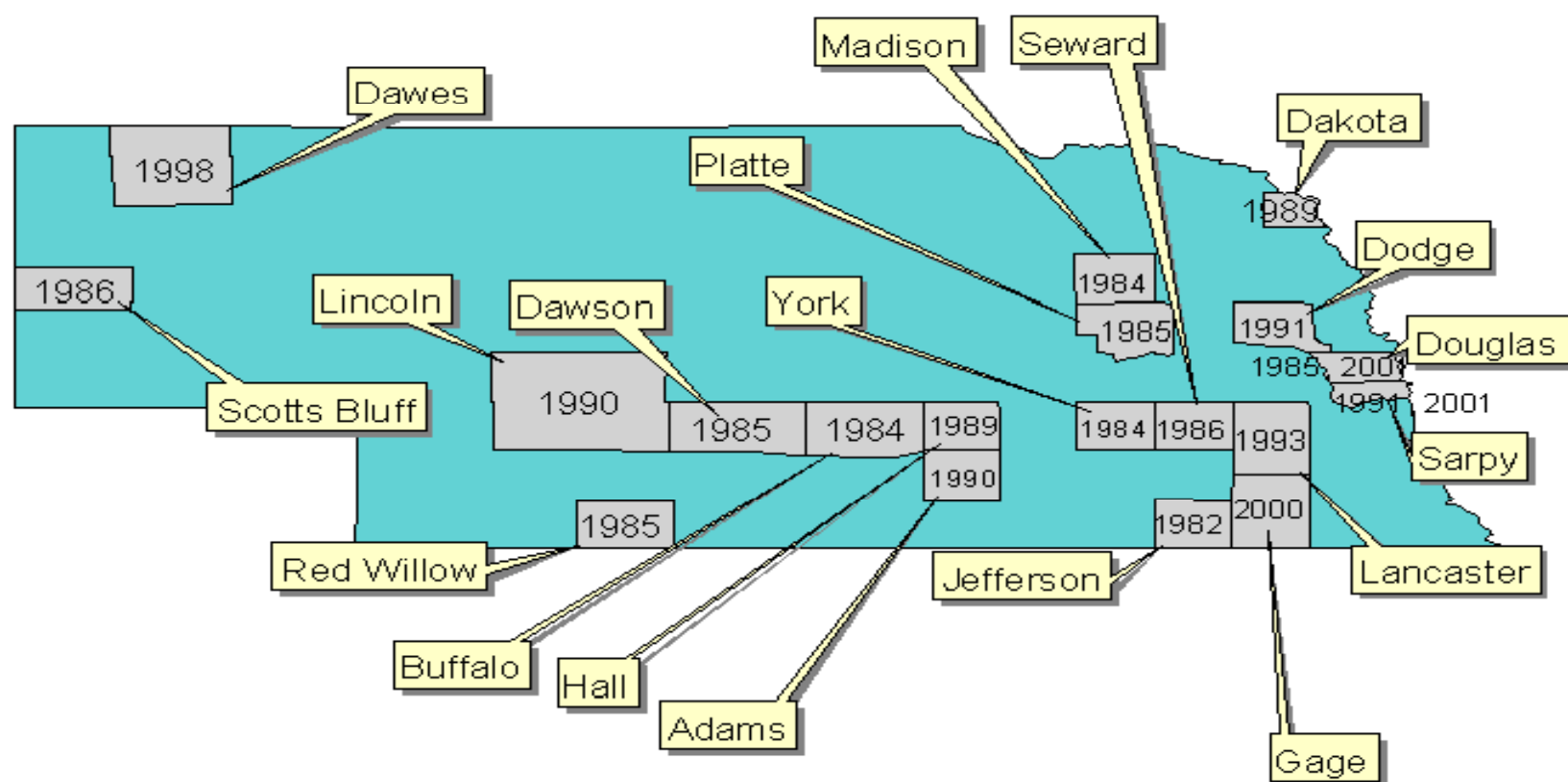
OBJECTIVE

- To test whether or not the rate of economic growth in counties with a Wal-Mart is the same, higher, or lower than counties without Wal-Mart, after accounting for other variables that influence economic growth.
- Economic growth is measured by growth in median household income.



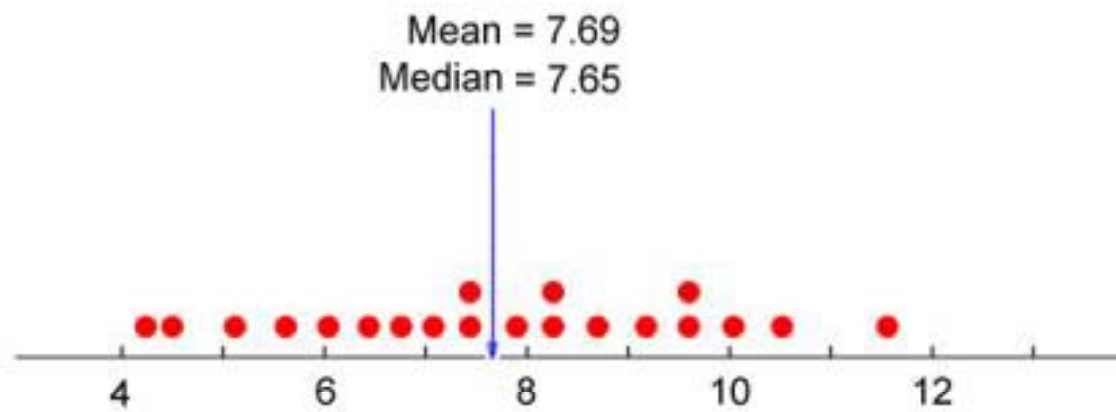
Wal-Mart in Nebraska

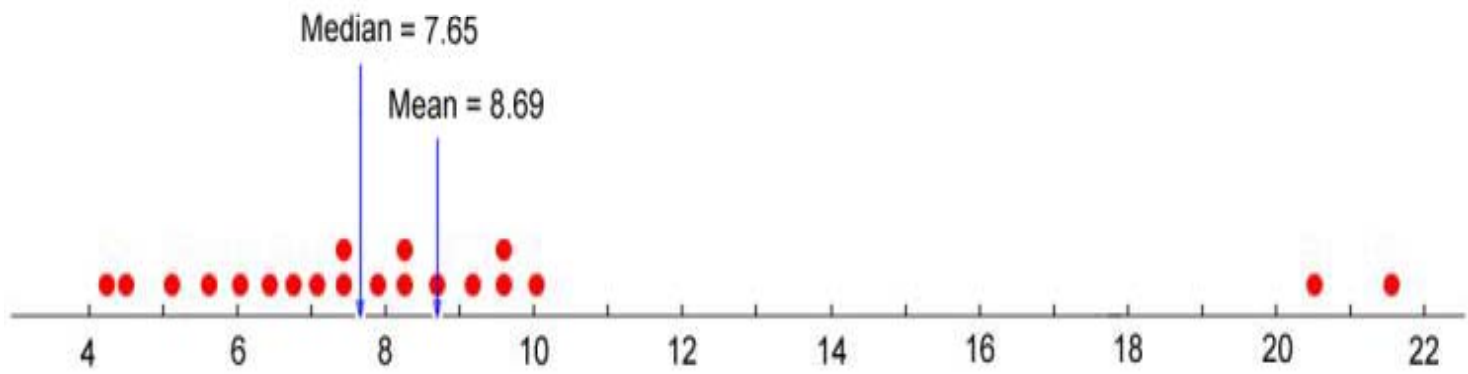
Wal-Mart Locations in Nebraska
1979 - 2002



County	Growth	ENTRY
Jefferson	65.7599	1982
Buffalo	26.66166	1984
Madison	-64.4052	1984
York	-49.296	1984
Dawson	-226.892	1985
Douglas	138.9741	1985
Platte	-77.7792	1985
Red W	-201.263	1985
Scotts B	-163.22 1	1986
Seward	193.6135	1986
Dakota	-151.604	1989
Hall	-155.686	1989
Adams	-12.2147	1990
Lincoln	-320.431	1990
Dodge	-68.1187	1991
Sarpy	294.5319	1991
Lanca	-15.3526	1993
Dawes	-118.149	1998
Gage	36.21739	2000

- **Household income** is the sum of money income received in a calendar year by all
- household members 15 years old and over, including household members not related to the householder, people living alone, and other nonfamily household members. Included are in the total are amounts reported separately for wage or salary income; net self-employment income; interest, dividends, or net rental or royalty income or income from estates and trusts; Social Security or Railroad Retirement income; Supplemental Security Income (SSI); public assistance or welfare payments; retirement, survivor, or disability pensions; and all other income.







Model specification

$$Growth_i = \alpha + \gamma(Conditioningset)_i + \beta(Wal - Mart)_i + Error_i$$

- Where the subscript i indicates the i th county in Nebraska
- α is the constant term
- γ and β are parameters to be estimated
- error is a random disturbance.

Shaffer (2002)



Model- Variables

- Growth $Growth = \frac{MHHinc2002 - MHHinc1979}{23}$
 - Measured by average growth rate in median household income between 1979 and 2002
- Conditioning set
 - Initial personal per capita income
 - Education – stock of human capital
 - Population density – agglomeration economies
 - Population – market size



Model- variables

- Conditioning set cont:
 - Total local government expenditure – government size
 - Highway expenditure - infrastructure
 - Unemployment rate – economic health of a geographical area
 - Interstate – isolation or accessibility of a county



Model - Wal-Mart variables

- Waldum 1
 - Dummy variable for counties with a Wal-Mart
- Waldum2
 - Dummy variable for counties with more than one Wal-Mart store
- WalAdjacent
 - Dummy variable for counties which are adjacent to counties with a Wal-Mart store
- Walyear – number of years Wal-Mart has been in a county



Data

- 93 Nebraska counties
 - 19 counties have a Wal-Mart
 - 49 counties are adjacent to Wal-Mart counties
- *County and City Data Book* by the US Bureau of Census, 1988, 1994, and 2000 and the Bureau of Economic Analysis.
- Information on Wal-Mart location and opening dates was obtained from Wal-Mart.



Results

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	1628.7 (2.0307)**	1755.7 (2.2160)**	1728.9 (2.1655)**	1889.4 (2.3640)**	1884.4 (2.3733)**
ln(Initial personal per capita income)	-121.32 (-1.772)*	-134.73 (-2.0014)**	-126.88 (-1.8625)*	-139.02 (-2.0306)**	-140.13 (-2.0682)**
ln(Education)	-135.97 (-1.725)*	-117.14 (-1.5171)	-116.89 (-1.5036)	-95.979 (-1.2466)	-95.542 (-1.2489)
ln(Ppn density)	101.07 (3.321)***	90.649 (3.1162)***	112.30 (3.8915)***	103.77 (3.6143)***	102.97 (3.6564)***
ln(Population)	-22.984 (-0.2954)	-27.100 (-0.36194)	-30.686 (-0.40958)	-44.954 (-0.57725)	-41.576 (-0.55539)
ln(Gvtexp)	-26.718 (-0.3641)	-19.762 (-0.27904)	-22.728 (-0.31848)	-7.0373 (-0.09583)	-9.8837 (-0.13904)
ln(Highexp)	45.619 (0.8871)	30.657 (0.62552)	31.001 (0.6272)	18.673 (0.37277)	16.767 (0.34546)
ln(Unemp rate)	-99.336 (-2.313)**	-91.374 (-2.173)**	-108.28 (-2.5528)***	-98.448 (-2.3174)**	-99.069 (-2.3545)**
Interstate-80	50.228 (1.577)	42.248 (1.3837)	51.390 (1.6307)	40.463 (1.2921)	41.277 (1.3416)
Waldum1	-169.07 (-2.8421)***	-126.40 (-2.6665)***	-174.06 (-3.0883)***	-135.80 (-2.6525)***	-132.72 (-2.7883)***
Waldum2	162.79 (1.4219)	173.14 (1.5235)			
WalAdjacent	-46.655 (-1.2315)		-51.104 (-1.3533)		
Walyear	-1.6643 (-0.25224)			-1.1334 (-0.17008)	
R ²	0.3990	0.3872	0.3836	0.3700	0.3698

P-values are indicated as 0.10*, 0.05**, 0.01***



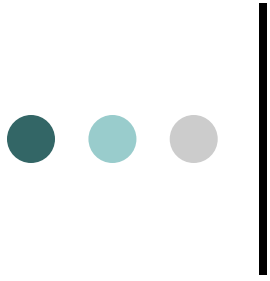
Finding

- Counties where a Wal-Mart is located experienced lower economic growth than counties without a Wal-Mart.
- Why?



Future research possibilities

- What causes counties with a Wal-Mart to experience lower growth as compared to non – Wal-Mart counties.
- Wal-Mart entry and location decisions.



THANK YOU